

## ABSTRACT OF THE DISCLOSURE

The variations in appearance of an object caused by the variations in a capturing environment are estimated to be modeled, and the object model thus obtained is previously registered in a database. Picture information of an object to be a recognition target is input, and the input picture information is matched with the previously registered object model. The similarity with respect to the registered object model is determined, and the type of the object to be a recognition target is output, which is determined to be most similar among the registered object models. Information of a plurality of pictures captured by changing the relative position and posture of an object is input, and the variations in appearance of an object caused by the possible variations in a capturing environment are estimated to be modeled based on the input information of a plurality of pictures.